

Pinpoint Tests

A : DTC P0400, P0405; EGR VALVE FLOW MALFUNCTION/DRIVE CIRCUITS OPEN CIRCUIT

A1 : CHECK THE EMS POWER SUPPLIES TO THE EGR VALVE

1. Disconnect the EGR valve electrical connector, PI34.
2. Turn the ignition switch to the **ON** position.
3. Make sure the EMS relay is energised.
4. Measure the voltage between PI34, pins 02 and 05 (WP) and GROUND.

•Is the voltage at both pins greater than 10 volts?

-> **Yes**

Goto <<A2>>

-> **No**

REPAIR the circuit between the EGR valve and battery. This circuit includes the EMS relay and the EMS fuse box, fuse 10. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.

A2 : CHECK THE EGR VALVE COIL WINDINGS FOR CONTINUITY

1. Measure the resistance between pins 04 and 06 of the EGR valve.
2. Measure the resistance between pins 01 and 03 of the EGR valve.

•Are both resistances greater than 80 ohms?

-> **Yes**

Goto <<A3>>

-> **No**

INSTALL a new EGR valve. CLEAR the DTC. TEST the system for normal operation.

A3 : CHECK THE EGR VALVE COIL WINDINGS TO POWER SUPPLY CIRCUIT FOR CONTINUITY

1. Measure the resistance between pins 02 and 03 of the EGR valve.
2. Measure the resistance between pins 05 and 06 of the EGR valve.

•Are both resistances less than 80 ohms?

-> **Yes**

Goto <<A4>>

-> **No**

INSTALL a new EGR valve. CLEAR the DTC. TEST the system for normal operation.

A4 : CHECK THE EGR VALVE TO ECM CIRCUITS FOR OPEN CIRCUIT

1. Disconnect the battery negative terminal.
2. Disconnect the ECM electrical connector, EM12.
3. Measure the resistance between the following -
 - PI34, pin 04 (YU) and EM85, pin 03 (YU).

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- PI34, pin 01 (YG) and EM85, pin 04 (YG).
- PI34, pin 06 (YR) and EM85, pin 09 (YR).
- PI34, pin 03 (YR) and EM85, pin 10 (YR).

• **Are the resistances greater than 5 ohms?**

-> **Yes**

REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.

-> **No**

Goto <<A5>>

A5 : CHECK THE EGR VALVE TO ECM CIRCUITS FOR SHORT TO HIGH VOLTAGE

1. Reconnect the battery negative terminal.
2. Measure the voltage between the following -

- PI34, pin 04 (YU) and GROUND.
- PI34, pin 01 (YG) and GROUND.
- PI34, pin 06 (YR) and GROUND.
- PI34, pin 03 (YR) and GROUND.

• **Are the voltages greater than 10 volts?**

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.

-> **No**

Goto <<A6>>

A6 : CHECK THE EGR VALVE TO ECM CIRCUITS FOR SHORT TO GROUND

1. Measure the resistance between the following -

- PI34, pin 04 (YU) and GROUND.
- PI34, pin 01 (YG) and GROUND.
- PI34, pin 06 (YR) and GROUND.
- PI34, pin 03 (YR) and GROUND.

• **Are the resistances less than 10,000 ohms?**

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.

-> **No**

Contact dealer technical support for advice on possible ECM failure.